

REMARKS

The Application presently includes claims 1-3, 5-12, and 14-18. Claims 1-4 were rejected by the Examiner under 35 U.S.C. §103(b) as being unpatentable over Swash, U.S. Patent No. 5,637,044 ("Swash"), in view of Yamaguchi et al., U.S. Patent No. 4,792,140 ("Yamaguchi") and the Rules of Golf as set forth by the USGA. Claims 5-12, 14-16, and 18 were also rejected by the Examiner under 35 U.S.C. §103(a) as being unpatentable over Swash in view of Yamaguchi, the Rules of Golf, and Igarashi, U.S. Patent No. 5,437,088 ("Igarashi"). No new matter has been added. Applicant respectfully traverses the rejections, and requests that the Examiner withdraw the objections and rejections and pass the application to allowance.

Claim Rejections under U.S.C. § 103(a) of Claims 1-4

The rejection of claims 1- 4 under 35 U.S.C. 103(a) is respectfully traversed. Notwithstanding the following discussion, Claim 1, as presently amended, now requires that the grooves are curvilinear and non-concentric so that the claim is not directed to the groove dimensions only. Claim 2 has been amended to correct an informality, not for any reason related to patentability. Claim 3 remains as originally presented. Claim 4 has been cancelled.

1. **Swash, Yamaguchi, and The Rules of Golf Do Not Teach or Suggest Groove Depth**

Swash discloses a golf putter with a plurality of grooves formed therein. The grooves of the Swash putter are disclosed as being of any suitable cross-section and depth. Column 2, lines 26-27. Swash discloses grooves with a depth between 0.2 and 0.3 mm (column 1, lines 42-43) or between 0.2 and 0.5 mm (column 2, lines 27-28), but preferably 0.25 mm (column 1, line 43, and column 2, line 28). Thus, the teaching of Swash is limited to grooves having a minimum depth of 0.2 mm.

The Rule of Golf cited by the Examiner does not apply to putters. The Examiner cites Rule of Golf, Appendix II "Design of Clubs," section 5 "Club Face," subsection c "Impact Area

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Markings,” (i) “Grooves” as limiting the depth of grooves on the face of a golf club to 0.020 inches (0.508 mm). However, Rule of Golf, Appendix II, section 5, subsection f “Putter Face,” explicitly states that the specifications with regard to markings in the impact area do not apply to putters. Thus, the Rules of Golf offer no limitation or teaching as to the usefulness of grooves on the face of a putter.

Yamaguchi discloses an iron type golf club that may or may not have grooves on the club face. However, Yamaguchi gives no suggestion as to groove depth or shape.

Accordingly, Applicant respectfully submits that grooves of micron depth are not taught or suggested by the prior art.

2. The Teachings of Yamaguchi Are Not Applicable to Putter Heads Claimed by Applicant

As mentioned above, Yamaguchi discloses an iron type golf club that may or may not have grooves on the club face. The Examiner states that from a reading of Yamaguchi “the omission of grooves is desirable in that without face grooves, the trajectory angle of a struck ball is increased, the degree of spin experienced by a ball at impact is reduced and the amount of ball carry is increased over a conventional striking face that is provided with grooves.” Applicant submits that Yamaguchi’s teaching is not pertinent to the claimed invention, which is concerned with providing a putter with grooves of a specified depth. Yamaguchi’s invention is concerned with an iron type club where trajectory and the amount of carry are relevant. This is not the case with a putter which is the subject matter of the present invention.

Accordingly, Applicant respectfully submits the teachings of Yamaguchi are not applicable to putter heads and putter head inserts as claimed by Applicant.

3. Yamaguchi Does Not Teach or Suggest Curvilinear and Non-Concentric Grooves as Claimed by Applicant

As mentioned above, Yamaguchi discloses an iron type golf club that may or may not have grooves on the club face. Examiner states that "Yamaguchi guides that skilled artisan to form groove patterns in other than conventional patterns." Applicant submits that Yamaguchi's teaching of groove patterns is confined to parallel lines. Neither the figures nor the detailed description in Yamaguchi disclose anything but straight, parallel, horizontally lined grooves. There is no teaching in Yamaguchi suggesting the use of non-concentric groove patterns.

Accordingly, Applicant respectfully submits the teaching of Yamaguchi with respect to groove patterns are not applicable to putter heads and putter head inserts as claimed by Applicant.

Furthermore, the micron sized curvilinear and non-concentric groove patterns of the present invention offer improved performance over the prior art. The micron sized grooves possibly allow face slippage if the putt is at an angle from the desired path of travel, but the lightly curved lines will have a slightly self centralizing effect. See Specification, page 5, lines 26 – 30.

4. **Swash and Yamaguchi Do Not Teach or Suggest Groove Depth as Being a Resulter**

The teachings of Swash and Yamaguchi are discussed above. Examiner states: "The combination of the Swash and Yamaguchi teachings indicates the recognition that the existence of groove depth directly affect the characteristics of a struck ball. In other words, the groove dimensions are recognized as being result effective." Applicant submits that the combination of Swash and Yamaguchi fail to show how groove depth affects the characteristics of a struck ball. As discussed above, Swash discloses a range of groove depths between 0.2 and 0.5 mm. However, there is no teaching in Swash that shows how the roll of a struck ball changes as groove depth on the face of a putter is varied. Yamaguchi discloses how ball trajectory, carry, and spin are affected for a ball struck with an iron type club having or not having grooves on the club face. However, there is no teaching in Yamaguchi that shows how the roll of a struck ball changes as groove depth on the face of a putter is varied. Accordingly, Applicant respectfully submits that

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the combination of Swash and Yamaguchi do not teach or suggest groove depth as being a result-effective parameter.

Thus, Applicant submits that claims 1-4 are nonobvious over Swash in view of the Rules of Golf and Yamaguchi.

Claim Rejection under U.S.C. § 103(a) of Claims 5-12, 14-16, and 18

The rejection of claims 5-12, 14-16, and 18 under 35 U.S.C. 103(a) is also respectfully traversed. Due to the foregoing discussion, claims 5-12, and 18, as they depend, either directly or indirectly from independent claim 1, are non obvious over Swash in view of the Rules of Golf and Yamaguchi.

Furthermore, and notwithstanding the following discussion, claim 5 has been amended to include the limitation that the insert is an elongate cylindrical insert. Claim 15 has been amended to correct an informality, not for any reason related to patentability. Claims 6-12, 14, 16, and 18 remain as originally or previously presented.

5. The Teachings of Igarashi Are Not Applicable to Putter Head Claimed by Applicant

Igarashi discloses a golf club wherein the surface of the face of the club is substantially flat, which is achieved by milling the club face, and wherein the edges of grooves are made sharp as a result of the milling. Igarashi further discloses how the sharp edged grooves produce enhanced backspin and reduced sidespin when a golf ball is struck, which results in a relatively straight golf ball flight path. It is the express purpose of Igarashi to provide an invention that reduces the lateral force experienced by the golf ball during its flight. Column 5, lines 26-28. Applicant submits that Igarashi's teaching is not pertinent to the claimed invention, which is concerned with providing a putter with grooves of a specified depth. Igarashi's invention is concerned with an iron type club where ball flight path is relevant. This is not the case with a putter which is the subject matter of the present invention.

Furthermore, as the Rules of Golf cited by Examiner do apply to iron type golf clubs. An

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iron type club made according to Igarashi would violate the Rules of Golf, which prohibit markings in the impact area from having sharp edges.

Accordingly, Applicant respectfully submits the teachings of Igarashi are not applicable to putter heads and putter head inserts as claimed by Applicant.

6. Swash and Igarashi Do Not Teach or Suggest a Depth of Milling Process as Claimed by Applicant

The Examiner rejects claims 10 and 11, stating, "Igarashi shows it to be old in the art to include a milling process so that the edges of the grooves are provided with a sharp profile." The teachings of Swash are discussed above. Applicant submits that the milling process in Igarashi is used to give pre-formed grooves a sharp edge. Igarashi distinguishes between milling lines and grooves, Fig. 1a, and states that the benefit of the invention comes from the sharp groove edges created from milling and not from the milling itself.

Accordingly Applicant respectfully submits that Swash and Igarashi do teach or suggest the use of a milling process to create grooves having a depth of micron size as claimed by Applicant. Applicant further submits that claims 10 and 11 are nonobvious over Swash in view of Igarashi.

7. Swash and Yamaguchi Do Not Teach or Suggest an Elongate Cylindrical Insert as Claimed by Applicant

As discussed above, Yamaguchi is concerned with a golf club of the iron type and discloses flat inserts only suitable for attachment to the flat face of an iron club. There is no suggestion in Swash or Yamaguchi to use an elongate cylindrical insert as claimed by Applicant.

8. Yamaguchi Does Not Teach or Suggest An Insert Being Spaced from the Head By Means of a Clearance Space

The Examiner states "it is clear that while the references do not specifically discuss a

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clearance, it is clear the inclusion of a clearance and the amount of clearance would have depended on the sizing requirements for the insert and the manner in which the insert is secured to the face of the head.” This may be a concern for Yamaguchi, which discloses an insert attached to the club head face by adhesive, bolts, or dovetail fit. However, this differs from Applicant’s construction involving an insert inserted within a cavity in the putter head located and retained by resilient inserts. The complex machining methods required to produce the shapes proposed by Yamaguchi are thus not necessary with Applicant’s invention. As described, this allows the use of unmachined bar stock or as-cast material. Before making use of these materials, the skilled artisan would firstly have to conceive the idea of fitting an elongate cylindrical insert within the cavity of a putter head with the required degree of clearance. As the Examiner acknowledges, none of the cited reference discuss this possibility.

Accordingly, Applicant respectfully submits that Yamaguchi does not teach or suggest an insert being spaced from the head by means of a clearance space. Furthermore, Applicant respectfully submits claims 5-12, 14-16, and 18 are nonobvious over Swash in view of Yamaguchi.


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Conclusion

In view of the above Amendments and Remarks, Applicant submits that the present application is in condition for allowance, and seeks early indication of the same. If the Examiner requires further information with respect to this application, the Examiner is invited to contact Applicant's attorney at (847) 537-3537 for a telephonic interview.

Respectfully submitted,

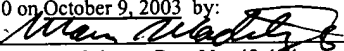
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